

EXHIBIT 38

Filed on behalf of TQ Delta, LLC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NOKIA OF AMERICA CORPORATION
Petitioner

v.

TQ DELTA, LLC
Patent Owner

Case No. IPR2022-00471
Patent No. 8,462,835

PATENT OWNER'S PRELIMINARY RESPONSE

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EXHIBIT LIST

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2001	July 3, 2018 Memorandum Opinion in <i>TQ Delta, LLC v. 2Wire, Inc.</i> , Case No. 1:13-cv-01835-RGA (D. Del.) (Family 6)
2002	Second Amended Complaint, <i>TQ Delta, LLC v. Pace Americas, LLC, et al.</i> , Case No. 13-cv-1835-RGA (D. Del.)
2003	Affidavit of Mailing of Summons, Second Amended Complaint, and Notice-Consent of Availability of Mag Judge in <i>TQ Delta, LLC v. Pace Americas, LLC, et al.</i> , Case No. 1:13-cv-01835-RGA (D. Del.) (filed February 21, 2014)
2004	2Wire's June 2, 2014 Answer, Affirmative Defenses, and Counterclaims to Second Amended Complaint for Patent Infringement in <i>TQ Delta, LLC v. Pace plc, et al.</i> , Case No. 1:13-cv-01835-RGA (D. Del.)
2005	2Wire's May 19, 2017 Amended Corporate Disclosure Statement in <i>TQ Delta, LLC v. 2Wire, Inc.</i> , Case No. 1:13-cv-01835-RGA (D. Del.)
2006	2015 10-K for ARRIS International Plc
2007	2Wire's May 3, 2019 Second Amended Corporate Disclosure Statement in <i>TQ Delta, LLC v. 2Wire, Inc.</i> , Case No. 1:13-cv-01835-RGA (D. Del.)
2008	ARRIS GLOBAL LTD. overview - GOV.UK
2009	October 22, 2021 Consolidation Order - <i>TQ Delta, LLC v. CommScope Holding Co., et al.</i> , Case No. 2:21-cv-310 (E.D. Tex.)
2010	September 24, 2021 Notice of Dismissal - <i>TQ Delta, LLC v. CommScope Holding Co., et al.</i> , Case No. 2:21-cv-310 (E.D. Tex.)
2011	Jun. 28, 2018 Memorandum Opinion, <i>TQ Delta, LLC v. 2Wire, Inc.</i> , Case No. 1:13-cv-1835 (D. Del.)
2012	February 14, 2022 Oral Order in <i>TQ Delta, LLC v. 2Wire, Inc.</i> , Case No. 1:13-cv-01835-RGA (D. Del.)
2013	April 2, 2019 Oral Order in <i>TQ Delta, LLC v. 2Wire, Inc.</i> , Case No. 1:13-cv-01835-RGA (D. Del.)
2014	October 13, 2017 Third Amended Complaint in <i>TQ Delta, LLC v. 2Wire, Inc.</i> , Case No. 1:13-cv-01835-RGA (D. Del.)
2015	July 26, 2021 Memorandum Opinion in <i>TQ Delta, LLC v. 2Wire, Inc.</i> , Case No. 1:13-cv-01835-RGA (D. Del.) (Family 6)

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Exhibit #	Description
2016	October 27, 2020 Omnibus Declaration of Rajendra A Chiplunkar in <i>TQ Delta, LLC v. 2Wire, Inc.</i> , Case No. 1:13-cv-01835-RGA (D. Del.)
2017	March 28, 2022 Order Denying Defts' Opposed Motion to Transfer Venue to the District of Delaware in <i>TQ Delta, LLC v. CommScope Holding Co., et al.</i> , Case No. 2:21-cv-310 (E.D. Tex.)
2018	December 31, 2021 Infringement Contentions in <i>TQ Delta, LLC v. CommScope Holding Co., et al.</i> , Case No. 2:21-cv-310 (E.D. Tex.)
2019	CommScope's January 13, 2022 Invalidity Contentions in <i>TQ Delta, LLC v. CommScope Holding Co., et al.</i> , Case No. 2:21-cv-310 (E.D. Tex.)
2020	Docket Report for <i>TQ Delta, LLC v. CommScope Holding Company, Inc., et al.</i> , Case No. 2:21-cv-310-JRG (E.D. Tex.)
2021	Docket Report for <i>TQ Delta, LLC v. Nokia Corp., et al.</i> , Case No. 2:21-cv-309-JRG (E.D. Tex.)
2022	Docket Report for <i>TQ Delta, LLC v. 2Wire, Inc.</i> , Case No. 1:13-cv-01835-RGA (D. Del.)
2023	Declaration of Peter J. McAndrews
2024	September 18, 2020 Jacobsen Deposition Transcript from <i>TQ Delta, LLC v. 2Wire, Inc.</i> , Case No. 1:13-cv-01835-RGA (D. Del.)
2025	October 30, 2019 Jacobsen Deposition Transcript from <i>TQ Delta, LLC v. Zyxel Communications, Inc., et al.</i> , Case No. 1:13-CV-2013-RGA (D. Del.)
2026	Motion to Stay in <i>TQ Delta, LLC v. CommScope Holding Co., et al.</i> , Case No. 2:21-cv-310 (E.D. Tex.)
2027	Declaration of Edward Chin
2028	Declaration of Vijay K. Madiseti, Ph.D.

I. INTRODUCTION

Patent Owner TQ Delta, LLC (“TQ Delta” or “Patent Owner”) submits this preliminary response to the Petition filed by Nokia of America Corporation (“Nokia” or “Petitioner”) requesting *inter partes* review of claims 8–10, 15, 24–26, and 31 (the “Challenged Claims”) of U.S. Pat. No. 8,462,835 (the “835 Patent”). Nokia’s Petition is a “copycat” of the Petition filed by CommScope, Inc. (“CommScope”) in IPR2022-00352 with respect to the 835 Patent that challenges the same claims based on the same grounds, expert declarations, and prior art as CommScope’s Petition. Pet. at 1.

The Board must deny institution of this proceeding under the one-year bar date of 35 U.S.C. § 315(b). 2Wire, Inc. was served with a complaint alleging infringement of the 835 Patent on February 7, 2014—almost eight years before the December 31, 2021 filing date of this Petition. That case has resulted in a summary judgment finding that 2Wire infringes the 835 Patent and the issue of validity will be tried to a jury beginning July 18, 2022. CommScope is the acquirer of the successor-in-interest of 2Wire, and, as TQ Delta argues in its Preliminary Response to CommScope’s Petition, CommScope’s Petition should be denied because 2Wire is a privy and real party in interest (“RPI”). Similarly, Nokia’s Petition should be denied because 2Wire and CommScope are RPIs and privies to Nokia. Nokia is

acting as a proxy for at least two parties (2Wire and CommScope) that are barred under § 315(b) from challenging the 835 Patent in an IPR.

In addition, the Board should exercise its discretion under 35 U.S.C. § 314(a) to deny institution. Institution of a trial would be an inefficient use of Board resources in light of the state of the parallel district court litigations between TQ Delta and CommScope and between TQ Delta and 2Wire involving the 835 Patent. The “*Fintiv*” factors favor the Board exercising its discretion to deny institution.

In any event, the Petition fails to demonstrate a reasonable likelihood that the Challenged Claims of the 835 Patent are unpatentable. Each of the asserted prior art references differs significantly from the inventions claimed by the 835 Patent, and claim limitations are missing from each of the asserted prior art references. Moreover, regarding the obviousness grounds, Petitioner fails to provide evidence of any motivation for modifying and/or combining the references as it proposes or evidence of any reasonable expectation of success.

At this stage, therefore, the Board should decline instituting trial on each of the four proposed Grounds for several reasons.

Ground 1: The G.992.1 reference fails to teach or suggest at least the following limitations of the Challenged Claims: “transmit a flag signal,” “switch to using for transmission[/reception], a second FIP setting following transmission[/

reception] of the flag signal,” or “wherein: . . . the switching occurs on a pre-defined forward error correction codeword boundary following the flag signal.”

Ground 2: The SC-060 reference fails to teach or suggest at least the following limitations of the Challenged Claims: “[a]n apparatus configurable to adapt forward error correction and interleaver parameter (FIP) settings,” “transmit a flag signal,” “switch to using for transmission[/ reception], a second FIP setting following transmission[/ reception] of the flag signal,” “a first forward error correction parameter value of the first FIP setting is different than a second forward error correction parameter value of the second FIP setting,” wherein: . . . the switching occurs on a pre-defined forward error correction codeword boundary following the flag signal,” or “a first interleaver parameter value of the first FIP setting is different than a second interleaver parameter value of the second FIP setting.”

Moreover, Ground 2 should be rejected because it provides only bare conclusions regarding obviousness, without sufficient articulated reasoning. In particular, Petitioner fails to provide a reason to modify the SC-060, establish that modifying SC-060 would have had a reasonable expectation of success, or provide a *prima facie* showing that the “the switching occurs on a pre-defined forward error correction codeword boundary . . .” limitation would have been obvious.

Ground 3: Petitioner's Ground 3 is likewise deficient. As discussed above, G.992.1 and SC-060 both fail to teach or suggest several of the same limitations of the Challenged Claims. Moreover, Ground 3 fails to demonstrate a reasonable expectation of success at arriving at the claimed inventions or *prima facie* obviousness of a combination that includes the "switching occurs on a pre-defined forward error correction boundary" limitation of the Challenged Claims.

Ground 4: Ground 4 also falls short. Wunsch is essentially identical to SC-060, and Petitioner's arguments based on G.992.1 and Wunsch are essentially identical to Petitioner's arguments based on G992.1 and SC-060. Therefore, Ground 4 fails for the same reasons Ground 3 does.

Accordingly, Petitioner has not carried its burden of showing that any of the Challenged Claims are likely unpatentable.

II. SUMMARY OF THE 835 PATENT

The 835 Patent describes a novel solution that improves DSL performance and reliability by adapting impulse noise protection to changing conditions while continuing to communicate data. Ex. 1001 at 1:20–25, 8:4–9:18, and Figures 1, 3, 4 and 6. The 835 Patent explains that, at the time of the inventions, "[i]t [was] standard practice for communications systems to use interleaving in combination with Forward Error Correction (FEC) to correct the errors caused by impulse noise." *Id.* at 1:27–37. FEC and interleaving parameters include, *e.g.*, FEC codeword size,

FEC input block length, number of added FEC redundancy bytes, and interleaver depth. *Id.* at 2:22–25. The 835 Patent refers to a set of FEC and Interleaving Parameter values as an “FIP setting.” *Id.* at 2:22–25; 3:28-34.

The 835 Patent discloses a system that switches from using one FIP setting to another FIP setting without going through the startup initialization procedure such as that of traditional DSL systems. *Id.* at 3:37–47. The receiver and transmitter synchronize the switch so that the transmitter and receiver start using the parameters at the same instant in time. *Id.* at 11:4-7. This synchronization can be based on, for example, an FEC codeword count or, alternatively, a flag signal. *Id.* at 11:7-9. The Challenged Claims are directed to synchronization using a flag signal. The flag or marker signal is similar to that used in the ADSL2 G.992.3 OLR protocol. *Id.* at 12:4-5. The 835 Patent explains that a flag signal is more desirable than using an FEC codeword counter because, for example, it has greater impulse noise immunity. *Id.* at 12:5-8.

With reference to Figure 6, the 835 Patent describes the method of synchronization using a flag signal. *Id.* at 19:14-16. “[T]he modems enter Showtime using the first FIP parameters.” *Id.* at 19:17-19. “[A] message is exchanged indicating the new FIP settings.” *Id.* at 19:19-20. Next, “the transmitter forwards to the receiver a flag signal indicating when the new FIP settings are to be used.” *Id.* at 19:20-22. At a predefined change time, following the transmission of the flag signal,

the transmitter switches to the new FIP settings and begins transmission using the new FIP parameters. *Id.* at 19:23-25. In particular, “[f]or synchronization using a flag signal, the receiver and transmitter would start using updated FEC and interleaving parameters on a pre-defined FEC codeword boundary following the sync flag.” *Id.* at 12:8-11.

III. CLAIM CONSTRUCTION

Each of the Challenged Claims recite a “flag signal.” U.S. District Court Judge, the Hon. Richard G. Andrews, construed “flag signal” as “signal used to indicate when an updated FIP setting is to be used (the signal does not include the FEC codeword counter value upon which the updated FIP setting is to be used).” Pet. at 11. Petitioner applies this meaning of flag signal to the prior art. *Id.* While TQ Delta agrees with the positive portion of the construction, and agrees that the negative portion of the construction is accurate, the negative portion is incomplete for the reasons set forth below.

The 835 Patent discloses two means of synchronizing the switch to updated FIP settings: (1) synchronization based on an FEC codeword count that is transmitted in a message, or (2) synchronization based on a transmitted flag signal. Ex. 1001 at 11:7-9; Ex. 2028 at ¶25. In the message-based embodiment, the transmitting modem transmits to the receiving modem a message that includes data specifying the FEC codeword counter value on which the switch to updated FIP

settings are to be used for transmission and reception. Ex. 1001 at 11:51-55. In the flag signal-based embodiment, the transmitting and receiving modems do not rely on communication of a codeword count value or any other data that specifies the timing event on which the switch is to occur. Ex. 2028 at ¶31. Instead, in the flag signal embodiment, only a flag signal is transmitted to indicate when an updated FIP setting is to be used. *Id.* The flag signal is a wideband signal, generated from a pseudorandom noise pattern that does not contain any data in and of itself “similar to that used in the ADSL2 G.992.3 OLR protocol.” *Id.* at 12:3-5; Ex. 2028 at ¶32. Lacking any data content, the way in which a flag signal operates as an indicator (*i.e.*, “to indicate when an updated FIP setting is to be used”) is by inversion of the pseudorandom noise pattern used to generate of the signal. Ex. 2028 at ¶33. In this regard, the 835 Patent explains that “a flag signal could be an inverted sync symbol, or sync FLAG, as used in the ADSL2 G.992.3 OLR protocol.” Ex. 1001 at 12:29-31.

The 835 Patent recognizes that synchronization using a flag signal is “more desirable than using an FEC codeword counter because, for example, it has greater impulse noise immunity.” *Id.* at 12:6-7; Ex. 2028 at ¶36. Relying on a message containing an FEC codeword count is more likely to be negatively impacted by impulse noise because it requires accurate receipt and decoding of the data content of the message. Ex. 2028 at ¶36.

The negative portion of the Petitioner's adopted construction is too broad and, therefore, inconsistent with the plain meaning of flag signal and the intrinsic record. This is so because the construction leaves open the possibility that a message would qualify as a flag signal as long as it does not contain data indicating an FEC codeword counter value when, instead based on the claim term and intrinsic record, it should not.

Notably, however, while the statement of the District Court's construction in its claim construction order (the statement relied on by Petitioner) is too broad, the record of the claim construction process shows that the District Court and the parties understood that "flag signal" had a narrower meaning. During the *Markman* hearing, TQ Delta consistently maintained that one of skill in the art would understand that a flag signal cannot include "information that tells you when the FIP settings are going to be used." Ex. 1020 at 26:20-21. TQ Delta maintained, and the District Court agreed, that a flag signal does not include information indicating when the FIP settings are going to be used. *Id.* at 28:15-25 ("THE COURT: And so what you were trying to say by flag signal is essentially some kind of signal that is not dependent on its content to act as a signal? MR. McANDREWS: Not depending on its data content. I mean, because we're all talking about a pattern of bits, so that the pattern of bits is what is readily identifiable as a sync flag. . . . THE COURT: I assumed in my mind it was like a smiley face, but maybe that's wrong."). The Petitioner (via

its RPI and privy, 2Wire) similarly agreed that a flag signal does not include information indicating when the FIP settings are going to be used. *Id.* at 27:21-22 (“So an indicator like a stoplight, that’s an indication, putting up a flag, shooting a gun.”). Thus, TQ Delta and Petitioner agreed that a flag signal does not include information indicating when the FIP settings are going to be used. This agreement was reflected in the Memorandum Opinion in which the District Court explained the reasons why it reached its “flag signal” construction. Ex. 2001 at 5 (“The parties stated at oral argument that they agree that the specification provides two embodiments, and that the claims read only on the ‘flag signal’ embodiment, and not the ‘message’ or ‘FEC codeword counter’ embodiment.”).

In view of the foregoing, the correct construction of flag signal is “signal used to indicate when an updated FIP setting is to be used, where the signal does not include information (*e.g.*, a FEC codeword counter value) specifying when the updated FIP setting is to be used.” Ex. 2028 at ¶37.

IV. NO REVIEW SHOULD BE INSTITUTED BECAUSE NOKIA IS BARRED UNDER 35 U.S.C. §315(B) AND LACKS STANDING

Under 35 U.S.C. § 315(b), an *inter partes* review “may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent.” 35 U.S.C. § 315(b). “Whether a party who is not a named participant in a given proceeding nonetheless constitutes a

‘real party-in-interest’ or ‘privy’ to that proceeding is a highly fact-dependent question.” Consolidated Trial Practice Guide (“CTPG”) at 13. One of the reasons that the “terms ‘real party in interest’ and ‘privy’ were included in § 315” was to serve the purpose of “safeguard[ing] patent owners from having to defend their patents against belated administrative attacks by related parties via § 315(b).” *Applications in Internet Time, LLC v. RPX Corp.*, 897 F.3d 1336, 1350 (Fed. Cir. 2018). Indeed, the “RPI and privity requirements were designed to avoid harassment and preclude parties from getting ‘two bites at the apple’ by allowing such parties to avoid . . . the time bar.” *RPX Corp. v. Applications in Internet Time, LLC*, IPR2015-01750, Paper 128 at 9 (P.T.A.B. Oct. 2, 2020) (precedential).

The burden is on Nokia to demonstrate that its petition is “not time-barred under § 315(b) based on a complaint served on a real party in interest or a privy more than a year before a petition is filed.” *RPX*, IPR2015-01750, Paper 128 at 6-7. Accordingly, Nokia bears the burden of establishing that no RPI or privy was served with a complaint alleging infringement more than one year prior to the filing of Nokia’s Petition. *See id.*

The RPI inquiry involves a “flexible approach that takes into account both equitable and practical considerations, with an eye toward determining whether the non-party is a clear beneficiary that has a preexisting, established relationship with the petitioner.” *Applications in Internet Time, LLC v. RPX Corp.*, 897 F.3d 1336

(Fed. Cir. 2018). Congress intended for the term RPI to have an “expansive” meaning and formulation, *id.* at 1350, and the RPI inquiry has no “bright line test,” and is assessed “on a case-by-case basis.” CTPG at 17. The term RPI should “sweep[] broadly” and the determination of who is an RPI should consider “who, from a ‘practical and equitable’ standpoint will benefit from the redress that the chosen tribunal might provide.” *AIT*, 897 F.3d at 1346-49. Indeed, the “two questions lying at its heart are whether a non-party ‘desires review of the patent’ and whether a petition has been filed at a nonparty’s ‘behest.’” *Id.* at 1351.

Regarding the privity inquiry, the “Office intends to evaluate what parties constitute ‘privies’ in a manner consistent with the flexible and equitable considerations established under federal caselaw.” CTPG at 14-15. “The notion of ‘privity’ is more expansive, encompassing parties that do not necessarily need to be identified in the petition as a ‘real-party-in-interest.’” *Id.* Privity “prevent[s] successive challenges to a patent by those who previously have had the opportunity to make such challenges in prior litigation.” *WesternGeco LLC v. ION Geophysical Corp.*, 889 F.3d 1308, 1319 (Fed. Cir. 2018). In *Taylor v. Sturgell*, 553 U.S. 880, 894-95 (2008), the Supreme Court provided a non-exhaustive list for examining whether the legal relationship between two parties establishes that one is the privy of the other: (1) an agreement between the parties to be bound; (2) pre-existing substantive legal relationships between the parties; (3) adequate representation by

the named party; (4) the non-party's control of the prior litigation; (5) where the non-party acts as a proxy for the named party to relitigate the same issues; and (6) where special statutory schemes foreclose successive litigation by the non-party. *AIT*, 897 F.3d at 1360 (quoting *Taylor*, 553 U.S. at 894-95). "Analysis under any one of the [*Taylor*] factors can support a finding of privity." *Ventex Co. v. Columbia Sportswear North America, Inc.*, IPR2017-00651, Paper 148 at 12 (P.T.A.B. Jan. 24, 2019) (precedential).

2Wire, Inc., a company on which TQ Delta served a complaint for infringement of the 835 Patent over eight years ago, and its corporate parent, CommScope, who is a co-defendant of Nokia and is time-barred itself from challenging the 835 Patent via IPR, are RPIs and privies of Nokia. Accordingly, Nokia cannot meet **its burden** of establishing that no RPI or privy was served with a complaint alleging infringement more than one year prior to the filing of Nokia's Petition, and the Petition should be denied as time-barred under 35 U.S.C. § 315(b).

A. Relevant Factual Background

On February 7, 2014, Patent Owner served 2Wire and Pace Americas, LLC (formerly known as Pace Americas, Inc.), and on February 21, 2014, Patent Owner served Pace plc, with a Second Amended Complaint (Ex. 2002; Ex. 2003) in Civil Action No. 1:13-cv-01835-RGA (D. Del.) alleging infringement by 2Wire, Pace Americas, LLC, and Pace Plc of the 835 Patent (the "2Wire Lawsuit"). Therefore,

at least since February 21, 2014, 2Wire, Pace Americas, LLC, and Pace Plc have been barred from challenging the validity of the claims of 835 Patent in an *inter partes* review under 35 U.S.C. § 315(b). At the time of the filing of the Second Amended Complaint, 2Wire was a wholly-owned subsidiary of Pace plc. *See* Ex. 2004 at ¶4. Moreover, 2Wire (which was merged into ARRIS Solutions, Inc.)¹ and Pace Plc (which became ARRIS Global, Ltd.)² have been owned by CommScope since April 2019.

CommScope has confirmed these facts in its related Petition. *See* Ex. 1032 at 65 (“2Wire’s one-year period to petition for IPR of the ’835 patent has run because Patent Owner filed a lawsuit on November 4, 2013 in the District of Delaware, which was amended on February 7, 2014 to name 2Wire as a defendant”) and at *CommScope, Inc. v. TQ Delta, LLC*, IPR2022-00352, Ex. 1033 at 1 (“On April 4, 2019), CommScope Holding Company, Inc., CommScope’s parent entity, acquired

¹ On May 19, 2017, 2Wire filed an amended corporate disclosure statement stating that “2Wire, Inc. has been merged to form ARRIS Solutions, Inc. This name change is the result of a merger between 2Wire, Inc., Aurora Networks, Inc., and ARRIS Solutions, Inc. that became effective January 1, 2017. . . . ARRIS Solutions, Inc.’s parent company is ARRIS Group, Inc.” (Ex. 2005).

² On January 4, 2016, ARRIS Group, Inc. completed its combination with Pace plc whereby ARRIS International plc became the successor to ARRIS Group, Inc. and ARRIS International plc acquired Pace plc. (Ex. 2006 at p. i). Pace plc became a direct wholly-owned subsidiary of ARRIS International plc, which later became ARRIS International Limited (UK). Ex. 2006 at p. 87; Ex. 2007. Pace plc was then renamed ARRIS Global, Ltd. (Ex. 2008).

ARRIS International Limited (UK) . . . becoming its parent company. Prior to CommScope's acquisition of ARRIS International, ARRIS International acquired an entity named 2Wire, Inc.”).

On August 13, 2021, TQ Delta sued CommScope Holding Company, Inc., CommScope Inc., ARRIS International Limited, ARRIS Global Ltd., ARRIS US Holdings, Inc., ARRIS Solutions, Inc., ARRIS Technology, Inc., and ARRIS Enterprises, LLC for infringement of several of its patents in Civil Action No. 2:21-cv-00310 (E.D. Tex.), including for infringement of claims 8, 10, 24, and 26 of the 835 Patent. Ex. 1028. On that same day, TQ Delta sued Nokia Corp., Nokia Solutions and Networks Oy, and Nokia Of America Corp. for infringement of several of its patents in Civil Action No. 2:21-cv-00309 (E.D. Tex.) but not for infringement of the 835 Patent. Ex. 1033.³ On October 22, 2021, the Court consolidated those two cases into Action No. 2:21-cv-00310 (the “Texas Litigation”). Ex. 2009.

On December 31, 2021, CommScope filed its Petition for IPR of the 835 Patent (IPR2022-00352), and, on January 21, 2022, Nokia filed its copycat Petition. Neither CommScope, nor Nokia, identifies ARRIS Solutions, Inc. (2Wire's

³ On September 24, 2022, TQ Delta voluntarily dismissed its claims against ARRIS International Limited and ARRIS Global Ltd. in the CommScope Litigation without prejudice. See Ex. 2010.

successor) or ARRIS Global Ltd. (f/k/a Pace plc) as an RPI, and Nokia does not identify CommScope as an RPI.

The 2Wire Lawsuit is ongoing, and 2Wire is the sole defendant.⁴ The Court granted summary judgment of infringement of claims 8 and 10 of the 835 Patent against 2Wire on June 28, 2021, (*see* Ex. 2011), and the issue of validity of the 835 Patent is to be determined at trial, which is currently scheduled for July 18, 2022. *See* Ex. 2012; Ex. 2023 at ¶¶6-8. A trial on damages is to follow the trial on invalidity.⁵ *See* Ex. 2013. In its Preliminary Response to CommScope's Petition, TQ Delta contends that 2Wire is an RPI and privy and that, therefore, CommScope's Petition is barred under Section 315(b). Here, 2Wire and CommScope are both RPIs and privies to Nokia's Petition.

B. Nokia's Petition is Barred Under 35 U.S.C. § 315(b) Because 2Wire and CommScope Are RPIs and Privies

1. 2Wire and CommScope are RPIs

2Wire and CommScope are each "a clear beneficiary" of Nokia's Petition, they have "a preexisting, established relationship with" Nokia." *AIT*, 897 F.3d at 1351. TQ Delta sued 2Wire for infringement of the 835 Patent almost eight years

⁴ On October 13, 2017, TQ Delta filed its Third Amended Complaint in the 2Wire Lawsuit identifying 2Wire as the sole defendant. *See* Ex. 2014.

⁵ The Court bifurcated the 2Wire Lawsuit for purposes of trial by patent families. Claim construction and expert discovery for the 835 Patent is complete, and dispositive motions have been resolved. Ex. 2023 at ¶¶6-8.

ago, and, while the case is still pending, the Court has found on summary judgment that 2Wire infringes claims 8 and 10 of the 835 Patent. 2Wire is unquestionably time barred from challenging the 835 Patent via IPR. TQ Delta sued CommScope for infringement of the 835 Patent in August 2021, and CommScope filed its Petition for IPR of the 835 Patent in December 2021. However, as TQ Delta argues in its Preliminary Response to CommScope's Petition, 2Wire is an RPI and privy to CommScope's Petition,⁶ and, therefore, CommScope's Petition is time-barred as well. TQ Delta has not sued Nokia for infringement of the 835 Patent, yet Nokia filed a Petition for IPR of the 835 Patent. Therefore, 2Wire and CommScope would both benefit from the Board instituting Nokia's Petition and finding that the Challenged Claims (which encompass the claims asserted against 2Wire and CommScope) are unpatentable. Moreover, there can be no doubt that 2Wire and CommScope desire institution of Nokia's Petition.

⁶ 2Wire is an RPI of CommScope's Petition at least because CommScope acquired 2Wire over two years before CommScope filed its Petition. *See Power Integrations, Inc. v. Semiconductor Components Indus., LLC*, 926 F.3d 1306, 1310, 1318 (Fed. Cir. 2019) (finding that non-party "Fairchild became an RPI at least by the time its merger with [petitioner] closed – four days before institution" and holding that "this IPR was time-barred . . . because Fairchild was an RPI at the time the IPR was instituted"); *Agilent Techs., Inc. v. Waters Techs. Corp.*, IPR2019-01131, Paper 12 at 7-8, 14 (P.T.A.B. Dec. 3, 2019) (finding that non-party Prozyme was an RPI, noting that "[t]his case . . . involves a parent company (Agilent) acting on behalf of a wholly owned subsidiary (Prozyme) that is barred from filing a petition in its own right").

Furthermore, the facts that Nokia and CommScope are co-defendants in the Texas Litigation and that Nokia filed a Petition to challenge the 835 Patent when the 835 Patent has not been asserted against Nokia indicate that Nokia has a preexisting, established relationship with CommScope and 2Wire. Indeed, it is apparent that Nokia and CommScope have an agreement to divvy up challenging TQ Delta patents via IPR to each other's benefit. It appears that the collective plan of CommScope and Nokia is to have one of them challenge all of the asserted patents via IPR while hoping to be able to argue that the other of them is not subject to estoppel.

For example, TQ Delta asserted its U.S. Patent Nos. 10,567,112, 8,468,411 9,094,348, 9,485,055, and 10,833,809 against CommScope and Nokia in the Texas Litigation, but only CommScope has challenged those patents via IPR, to the benefit of Nokia. *See* Ex. 1028; Ex. 1033; *CommScope, Inc. v. TQ Delta, LLC*, IPR2022-00470, IPR2022-00697, IPR2022-00809, IPR2022-00833; IPR2022-01012. TQ Delta asserted its U.S. Patent Nos. 7,453,881 and 8,276,048 against 2Wire and CommScope, but not against Nokia, yet only Nokia has challenged those patents via IPR, to the benefit of CommScope and 2Wire. *See* Ex. 1028; Ex. 1033; Ex. 2014; *Nokia Of America Corp. v. TQ Delta, LLC*, IPR2022-00640 and IPR2022-00666. TQ Delta has asserted its U.S. Patent No. 7,844,882 against 2Wire, CommScope, and Nokia, but only Nokia has challenged that patent via IPR, to the benefit of CommScope and 2Wire. *See* Ex. 1028; Ex. 1033; Ex. 2014; *Nokia Of America Corp.*

v. TQ Delta, LLC, IPR2022-00664. TQ Delta asserted its U.S. Patent No. 7,836,381 against 2Wire but not against CommScope or Nokia, yet Nokia has challenged that patent via IPR, to the benefit of 2Wire and its corporate parent CommScope. *See* Ex. 1028; Ex. 1033; Ex. 2014; *Nokia Of America Corp. v. TQ Delta, LLC*, IPR2022-00665. Lastly, TQ Delta has asserted its U.S. Patent No. 8,495,473 against 2Wire and Nokia, but not CommScope, and Nokia has challenged that patent via IPR, to the benefit of 2Wire. *See* Ex. 1028; Ex. 1033; Ex. 2014; *Nokia Of America Corp. v. TQ Delta, LLC*, IPR2022-00678.

Accordingly, 2Wire and CommScope are RPIs. *See* CTPG at 14 (“[A]t a general level, the [RPI] is the party that desires review of the patent”); *AIT*, 897 F.3d at 1348, 1349, 1351 (“the focus of the [RPI] inquiry is on the patentability of the claims challenged in the IPR petition, bearing in mind who will benefit from having those claims canceled or invalidated;” “when it comes to evaluating the relationship between a party bringing a suit and a non-party, the common law seeks to ascertain who, from a ‘practical and equitable’ standpoint, will benefit from the redress that the chosen tribunal might provide;” the “two questions lying at its heart are whether a non-party ‘desires review of the patent’ and whether a petition has been filed at a nonparty’s ‘behest’”).

Nokia states that “while TQ Delta has not initiated litigation against Nokia relating to the ’835 patent, TQ Delta has threatened to assert the ’835 patent against

Nokia via notice letter.” Pet. at 59.⁷ Nokia cites no evidence in support of that statement, and TQ Delta had not sued Nokia for infringement of the 835 Patent prior to Nokia filing its Petition, so Nokia has not shown that it had any direct personal interest in invalidating the 835 Patent when it filed its Petition. However, even if Nokia did have an interest in invalidating the 835 Patent, that does not mean 2Wire and CommScope are not RPIs. *See AIT*, 897 F.3d at 1347. (“Congress did not speak of there being only one interested party in each case; instead, it chose language that bars petitions where proxies or privies would benefit from an instituted IPR even where the petitioning party might separately have its own interest in initiating an IPR”). Indeed, the “point is not to probe [Nokia’s] interest (it does not need any); rather, it is to probe the extent to which [2Wire and CommScope] . . . ha[ve] an interest in and will benefit from [Nokia’s] actions, and inquire whether [Nokia] can be said to be representing that interest after examining its relationship with [2Wire and CommScope].” *Id.* at 1353. Here, 2Wire and CommScope have an interest and will benefit from Nokia’s Petition, and Nokia is representing CommScope’s and 2Wire’s interests as part of an agreement stemming from the relationship CommScope and Nokia have as co-defendants in the Texas Litigation.

⁷ Nokia makes this statement in arguing that the Board should not deny institution under *Fintiv*.

Nokia argues that “CommScope’s real parties in interest and/or privity issues do not affect Nokia as Nokia and CommScope are merely concurrent defendants in the respective E.D. Texas Litigations and are otherwise unrelated entities.” Pet. at 68. Again, Nokia and CommScope are more than just “concurrent defendants.” Each is filing IPR Petitions that benefit the other. And, here, Nokia’s Petition challenges the 835 Patent, which had not been asserted against Nokia at the time Nokia filed its Petition, so Nokia’s Petition was undoubtedly intended to benefit 2Wire and CommScope. In the cases Nokia cites for its argument, *Butamax Advanced Biofuels LLC v. Gevo, Inc.*, No. IPR2013-00215, Paper 10 (P.T.A.B. Sept. 30, 2013) and *Denso Corp. v. Beacon Navigation GmbH*, No. IPR2013-00026, Paper 34 (P.T.A.B. Mar. 14, 2014), the petitioner had also been sued for infringement of the challenged patent at the time the petition was filed – unlike here.

Nokia further argues that the following factors are identified in the CTPG as relevant to an RPI analysis and support a finding that CommScope is not an RPI: (1) did, or could, the non-party have exercised control over a party’s participation in the proceeding; (2) did the nonparty fund or direct the filing of the petition; (3) was the non-party involved in the petition; and (4) what is the nature of the entity filing the Petition. Pet. at 68 (quoting CTPG at 15–17). Setting aside the fact that individual factors like those are not dispositive of the RPI issue and all do not have

to be satisfied to find that a party is an RPI, some of those “factors” *do* support a finding that 2Wire and CommScope are RPIs.

First, CommScope and 2Wire did “fund” the filing of Nokia’s Petition because Nokia’s Petition copies the grounds made in the CommScope Petition, and the two primary references relied upon in both Petitions are being relied upon by 2Wire in its invalidity case in the 2Wire Lawsuit. *See* Pet. at 3; Ex. 1032 at 2; Ex. 2015 at 6-10. Moreover, Nokia’s Petition uses the same expert declaration by Krista Jacobsen used in CommScope’s Petition, and 2Wire is using Krista Jacobsen as an expert to support its invalidity case in the 2Wire Lawsuit. *See* Ex. 1003, *CommScope*, IPR2022-00352, Ex. 1003; Ex. 2016. *See Medtronic, Inc. v. Robert Bosch Healthcare Sys., Inc.*, IPR2014-00488, Paper 61 at 16 (P.T.A.B. May 22, 2015) (“It also is relevant that Medtronic’s Petitions in the instant proceedings rely on similar prior art references and arguments as Cardiocom’s petitions in the earlier proceedings, and that portions of Dr. Stone’s testimony in the instant proceedings are identical to his testimony in the earlier proceedings. . . . Medtronic’s Petitions enjoyed the benefit of work done previously, and paid for, by Cardiocom.”). Moreover, the fact that the Petition benefits 2Wire and CommScope indicates that CommScope directed Nokia to file the Petition as part of an agreement between co-defendants Nokia and CommScope. Indeed, 2Wire and CommScope had to be “involved in” Nokia’s Petition. It beggars belief that Nokia did not somehow

coordinate with its co-defendant CommScope in the preparation and filing of Nokia's Petition given that Nokia's Petition copies arguments CommScope and 2Wire have made and uses the same expert as CommScope and 2Wire used.

Moreover, “[e]ven if [CommScope or 2Wire] did not directly fund, control, or expressly request th[is] IPR proceeding[], the evidence regarding [Nokia]’s relationship with [CommScope and 2Wire] indicates that [Nokia] represented [CommScope’s and 2Wire’s] interests to [their] benefit and, consequently, that [Nokia] effectively acted as if [CommScope and 2Wire] had requested action by [Nokia], when filing the IPR petition[.]” *RPX*, IPR2015-01750, Paper 128 at 33; *see also Agilent Techs., Inc. v. Waters Techs. Corp.*, IPR2019-01131, Paper 12 at 11 (P.T.A.B. Dec. 3, 2019) (“The issues of control and funding . . . carry less weight in view of the compelling evidence of the intertwined nature of the relationship and the degree to which ProZyme stands to benefit from Agilent’s filing of the Petition”); *Cisco Sys., Inc. v. Hewlett Packard Enterprise*, IPR2017-01933, Paper 9 at 16 (P.T.A.B. Mar. 16, 2018) (“[A] non-party may be a RPI even in the absence of control or an opportunity to control.”).

2. 2Wire and CommScope are Privies

2Wire and CommScope are also privies. The “more expansive” notion of privity “encompass[es] parties that do not necessarily need to be identified in the petition as a ‘real-party-in-interest.’” CTPG at 14. While each *Taylor* factor “alone

is sufficient to establish privity between a nonparty and a named party in the prior litigation,” *PayPal, Inc. v. PersonalWeb Techs., LLC*, IPR2019-01111, Paper 27 at 12 (P.T.A.B. Nov. 22, 2019), multiple *Taylor* factors support a finding of privity here.

To start with, there was a preexisting substantive legal relationship between CommScope/2Wire and Nokia (*Taylor* Factor No. 2). 2Wire became a wholly owned subsidiary of CommScope in April of 2019, and, since CommScope and Nokia have become co-defendants in the Texas Litigation, CommScope and Nokia have worked together to divvy up IPR filings for TQ Delta patents so that an IPR petition filed by one party benefits the other. As discussed above, Nokia alone has filed IPR petitions challenging TQ Delta patents that have been asserted against CommScope and/or 2Wire but that have not been asserted against Nokia, and CommScope has filed IPR petitions challenging TQ Delta patents that have been asserted against CommScope and Nokia but that Nokia has not challenged via IPR. Thus, CommScope/2Wire and Nokia had a preexisting, substantive legal relationship prior to the filing of the Petition. Further evidence of the relationship between CommScope/2Wire and Nokia is the fact that Nokia’s Petition uses the same art, grounds, and expert that CommScope’s Petition used.

Regarding *Taylor* Factor No. 3 (adequate representation by the named party), Nokia’s interests have been adequately represented in the 2Wire Lawsuit. Indeed,

2Wire's interest in the 2Wire Lawsuit (*i.e.*, invalidating the 835 Patent) coincides with Nokia's interest in this proceeding. Further, Nokia must believe its interests have been well represented in the 2Wire Lawsuit because it used the same technical expert that 2Wire used in the 2Wire Lawsuit.

Taylor Factor No. 5 (where the non-party acts as a proxy for the named party to relitigate the same issues) weighs in favor of privity. Nokia had not been sued for infringement of the 835 Patent at the time it filed its Petition, but 2Wire and CommScope had been. Moreover, 2Wire is unquestionably time barred from filing an IPR petition, and CommScope's Petition is barred because 2Wire is an RPI and privity to CommScope's Petition.⁸ Therefore, 2Wire and CommScope unquestionably benefit if Nokia's Petition is successful. Thus, Nokia acted as a proxy for 2Wire and CommScope by filing its Petition. *See PayPal*, IPR2019-01111, Paper 27 at 35 ("Petitioner Entities, then, are representing Amazon's continued interests, as well as their own, in the instant IPR proceeding We, thus, conclude that Petitioner Entities are serving as proxies of Amazon.").

Lastly, *Taylor* Factor No. 6 (where a special statutory scheme forecloses successive litigation by the non-party) supports a finding of privity. Section 315 includes the terms "RPI" and "privity" in order to "safeguard patent owners from

⁸ Nokia recognizes CommScope's time bar issue. Pet. at 68 ("CommScope's real parties in interest and/or privity issues do not affect Nokia as Nokia and CommScope are merely concurrent defendants in the respective E.D. Texas Litigations").

having to defend their patents against belated administrative attacks by related parties via § 315(b)” *AIT*, 897 F.3d at 1350, and “to avoid harassment and preclude parties from getting ‘two bites at the apple’ by allowing such parties to avoid . . . the time bar.” *RPX*, IPR2015-01750, Paper 128 at 9. Thus, Section 315 was designed to foreclose exactly the kind of thing that is going on here – TQ Delta having to defend against a belated administrative attack on its 835 Patent by 2Wire via Nokia, who has an agreement with CommScope to challenge TQ Delta patents that CommScope and/or 2Wire are time barred from challenging. *See Microsoft Corp. v. Science Applications Int’l Corp.*, IPR2019-01311, Paper 35 at 11-12 (P.T.A.B. Jan. 27, 2020) (“A special statutory scheme applies here under 35 U.S.C. 315(b), which bars institution of an IPR if a ‘privy of the petitioner is served with a complaint alleging infringement of the patent’ more than one year before the petition was filed.”).

Thus, Nokia cannot meet its burden of establishing that no RPI or privy was served with a complaint alleging infringement more than one year prior to the filing of Nokia’s Petition. Accordingly, the Petition is barred under 35 U.S.C. § 315(b).

V. THE BOARD SHOULD DENY INSTITUTION UNDER *FINTIV*

The Board should exercise its discretion to deny institution under 35 U.S.C. § 314(a) in light of the parallel, co-pending 2Wire Lawsuit and Texas Litigation, which both will likely determine the issue of validity for the Challenged Claims

several months before a final written decision in this proceeding. *Apple Inc. v. Fintiv Inc.*, IPR2020-00019, Paper 11 (P.T.A.B. March 20, 2020) (precedential). *Fintiv* sets forth six non-exclusive factors for determining “whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding.” *Id.* at 6. Here, the *Fintiv* factors favor denial.

As an initial matter, Nokia argues that “TQ Delta has not asserted the ’835 patent against Nokia in litigation, and therefore the *Fintiv* factors are not directly applicable to the present petition.” Pet. at 59. Nothing in *Fintiv* suggests that denial is inappropriate in situations where the petitioner has not been sued for infringement of the challenged patent. Indeed, in *Fintiv*, the Board specifically stated that “[e]ven when a petitioner is unrelated to a defendant, . . . if the issues are the same as, or substantially similar to, those already or about to be litigated, or other circumstances weigh against redoing the work of another tribunal, the Board may, nonetheless, exercise the authority to deny institution.” *Fintiv*, IPR2020-00019, Paper 11 at 14.⁹

Turning to the *Fintiv* Factors, and regarding Factor 1, CommScope filed a motion on May 24, 2022 to stay the Texas Litigation with respect to patents (including the 835 Patent) asserted against 2Wire in Delaware. Commscope has

⁹ For this same reason, Nokia’s argument that the Board should not discretionarily deny institution based on the 2Wire Lawsuit is off point. Pet. at 61.

agreed, to the extent the requested stay is granted, that it will be bound by any validity determination for the 835 Patent to be made in the jury trial set for July 18, 2022 in the 2Wire Lawsuit. Ex. 2026 at 9. Furthermore, the Texas Litigation has not yet been stayed and trial is scheduled to start on January 2, 2023 in the Texas Litigation. Whether or not a stay in the Texas Litigation is granted, the issue of the 835 Patent's validity will be determined by at least one district court (in a manner that is binding on both 2Wire and CommScope) long before completion of this IPR, if instituted. Thus, Factor 1 favors denial. *See Mylan Labs. Ltd. v Janssen Pharm. NV*, IPR2020-00440, Paper 17 at 13-14 (P.T.A.B. Sep. 16, 2020).

Regarding Factor No. 2, in the 2Wire Lawsuit, the court has already found on summary judgment that 2Wire infringes the 835 Patent, and trial is scheduled to take place on July 18, 2022 on the issue of validity of the 835 Patent.¹⁰ In the Texas Litigation, the district court entered a jointly proposed docket control order that schedules a jury trial for January 2, 2023, a date that “cannot be changed without showing good cause.” Ex. 1029. In this proceeding, the Board has until August 25, 2022 to decide on institution, and, if the Board does institute, the Board would have

¹⁰ Nokia argues that because the 2Wire Lawsuit has been “has been severed into several separate liability trials and then a trial on damages and FRAND issues . . . the date of a final judgment . . . is speculative but is unlikely to occur for several years.” Pet. at 61. However, the trial on the issue of the validity of the 835 patent is scheduled for July 2022. So, “resolving Nokia’s invalidity challenge to the ’835 patent through [Nokia’s] petition” would not “promote efficiency,” as Nokia asserts.

until August 25, 2023 to issue a final determination. Therefore, two trials addressing the validity of the 835 Patent are scheduled – one more than 13 months, and one more than seven months, before the expected deadline for a final written decision (if trial is instituted).¹¹ Thus, Factor 2 strongly favors denial. *See Global Tel*Link Corp. v. HLFIP Holding, Inc.*, IPR2021-00444, Paper 14 at 19-20 (P.T.A.B. July 22, 2021) (“[N]either party has informed us that jury trials actually have been suspended that would affect the parallel proceeding at issue. On these facts, we do not find that COVID-19 pandemic injects substantial uncertainty into the October 12, 2021 scheduled trial date.”); *Google LLC v. Ecofactor, Inc.*, IPR2021-00488, Paper 12 at *12 (P.T.A.B. Aug. 11, 2021) (“Because the trial in the District Court proceeding is scheduled more than six months before the due date for the Final Written Decision, even if there are some delays, the District Court proceeding is likely to result in a trial verdict in advance of our statutory due date. Accordingly, this factor weighs in favor of exercising our discretion to deny.”); *Samsung Elec. Co. v. Clear Imaging Research, LLC*, IPR2020-01551, Paper 12 at 13 (P.T.A.B. Feb. 17, 2021) (that parallel trial was scheduled to begin more than ten months before deadline for final written decision “weighs strongly in favor of exercising discretion to deny”).

¹¹ Nokia argued that CommScope filed a motion to transfer its case to the District of Delaware and that, if that motion is granted, the trial date on the 835 Patent in the Texas Litigation will be irrelevant. Pet. at 60-61. The District Court, however, denied the motion to transfer on March 28, 2022. Ex. 2017.

With respect to Factor No. 3, the district court and parties have already invested heavily in the 2Wire Lawsuit with respect to the 835 Patent. The parties long ago completed fact and expert discovery, the Court has construed the claims and ruled on dispositive motions, and trial on the issue of validity is scheduled for July 18, 2022, very likely before a decision on institution is to be made. Ex. 2023 at ¶¶ 6-8. This favors denial. *See Mylan*, IPR2020-00440, Paper 17 at 19 (“there is a near certainty that trial will be completed in the Teva litigation imminently, so that the district court will have invested significant resources in assessing the validity of the challenged patent well before the Board would issue a Final Written Decision should we institute”).

With respect to the Texas Litigation, that case involves 22 patents, including the 835 Patent and is already far along. *See* Ex. 2027 at ¶¶5-51. The parties have exchanged infringement and invalidity contentions, fully briefed their claim construction positions, and have completed substantial document production. *Id.* at ¶¶12, 22, 42, 46-49. In that regard, TQ Delta has produced over 382,000 pages, CommScope has produced over 17,500 pages, and Nokia has produced over 280,000 pages. *Id.* at ¶51. Moreover, two depositions have been taken, and the parties have served and responded to interrogatories and requests for admission. *See id.* The district court has ruled on a motion to transfer and several other fully briefed motions are pending with the Court. *See id.* at ¶¶10-50. The Court has also entered an order

focusing the patent claims and prior art and appointed a Technical Advisor to the case. *See id.* at ¶¶ 43-44. Moreover, the *Markman* hearing, the close of fact discovery, and service of opening expert reports are all scheduled to occur before the deadline for a decision on institution. *See id.* at ¶52. Factor No. 3 favors denial. *See 10X Genomics, Inc. v. President and Fellows of Harvard College*, IPR2020-01467, Paper 21 at 13 at *6 (P.T.A.B. Feb. 22, 2021) (“[A]t this late stage in the district court proceeding the investment made by the court and both parties is significant, we find this factor weighs heavily in favor of exercising our discretion to deny institution.”).¹²

As for Factor No. 4, there is substantial overlap between the issues raised in the Petition, on one hand, and in the 2Wire Lawsuit and Texas Litigation, on the other hand. TQ Delta has asserted claims 8, 10, 24, and 26 against CommScope in the Texas Litigation and claims 8 and 10 in the 2Wire Lawsuit. *See* Ex. 2011 at 2; Ex. 2018 at 2. Claims 24 and 26 recite subject matter similar to that of claims 8 and 10, respectively. *See* Ex. 1001 at 20. The Challenged Claims include asserted claims 8, 10, 24, and 26 and just four non-asserted claims – claims 9 and 15 (which depend from claim 8) and claims 25 and 31 (which depend from claim 24). Thus, there is

¹² Nokia argues that “there is no parallel proceeding as to Nokia and as such there is no ‘investment in [a] parallel proceeding’ as to Nokia.” Pet. at 61. *Fintiv* Factor 3 is not limited to the investment by the petitioner, however. The TQ Delta, 2Wire, CommScope, and the courts in Delaware and Texas have all invested heavily in litigation over the 835 patent.

substantial claim overlap. *Apcon, Inc. v. Gigamon Inc.*, IPR2020-01583, Paper 9 at 14 (P.T.A.B. Mar. 16, 2021) (in finding factor 4 favors denial, noting that the additional claims challenged in petition depend from claim challenged in district court case); *Samsung*, IPR2020-01551, Paper 12 at 18-19 (“Petitioner does not show that the non-overlapping claims differ significantly in some way. . . . Rather, both sets of claims recite similar subject matter. . . . So, although the non-overlapping claims are challenged here, those claims are sufficiently similar to those at issue in the parallel proceeding.”).

Furthermore, Nokia’s Petition relies on the same prior art and substantially the same invalidity arguments (anticipated by G.992.1, obvious over SC-060 as the primary reference, obvious over G.992.1 in view of SC-060, and obvious over G.992.1 in view of Wunsch) that CommScope relies on in the Texas Litigation. *See* Ex. 2019 at 86-87 and Exhs. L-7-L-12. Similarly, 2Wire contends that the claims of the 835 Patent are anticipated by G.992.1 and are obvious over G.992.1 in view of SC-060. Ex. 2015 at 6-10. Therefore, Factor No. 4 favors denial.¹³ *See PEAG LLC v. VARTA Microbattery GmbH*, IPR2020-01213, Paper 9 at 18 (P.T.A.B. Jan. 6, 2021) (“[S]ubstantially identical prior art and invalidity grounds are asserted in both

¹³ Moreover, as discussed in Section VI.D below, Wunsch is cumulative of SC-060.

the district court and the *inter partes* review proceedings. . . . Accordingly, the fourth Fintiv factor weighs in favor of exercising discretion to deny institution.”).

Nokia errs in arguing that this factor weighs against denial “given the complete lack of overlap between issues raised in the Petition and in the district court proceedings as to Nokia.” Pet. at 62. Whether or not Nokia is litigating the 835 Patent in the Texas Litigation or the 2Wire Lawsuit does not change the fact the issues in Nokia’s Petition substantially overlap the issues raised by CommScope and 2Wire in district court with respect to the 835 Patent. *See Fintiv*, IPR2020-00019, Paper 11 at 12 (“[I]f the petition includes the same or substantially the same claims, grounds, arguments, and evidence as presented in the parallel proceeding, this fact has favored denial.”).

Regarding Factor No. 5, though Nokia has not had the 835 Patent asserted against it in the Texas Litigation or 2Wire Lawsuit, as discussed above, the issues raised in Nokia’s Petition are “the same as or substantially similar to those . . . about to be litigated” in those cases. *Id.* at 14. Moreover, as also discussed above, Nokia and CommScope are co-defendants who clearly are working together (along with CommScope’s subsidiary, 2Wire) on a strategy to challenge TQ Delta’s patents via IPR. *Id.* at 14. Thus, Factor No. 5 favors denial. *See Fitbit, Inc. v. Philips North America LLC*, IPR2020-00828, Paper No. 13 at 16 (P.T.A.B. Nov. 3, 2020) (“Petitioner . . . does not offer any explanation for why addressing the same or

substantially the same issues in this proceeding would not be duplicative of the proceedings in the *Garmin* case. Furthermore, we credit Patent Owner's assertion that 'the similarities in the invalidity contentions and claim construction positions of the litigations strongly indicate that Fitbit and Garmin are coordinating their litigation efforts.'").

Lastly, Factor No. 6 – other circumstances that impact the Board's exercise of discretion – favors denial. As discussed herein, the merits of Nokia's unpatentability assertions are weak and Nokia's Petition is a copycat Petition that just repeats the arguments made by CommScope in the Texas Litigation and in CommScope's time-barred Petition. Moreover, as discussed above, Nokia's Petition is barred under 35 U.S.C. § 315(b).

Accordingly, the Board should exercise its discretion to deny institution.

VI. NO REVIEW SHOULD BE INSTITUTED WITH RESPECT TO THE GROUNDS RAISED BY PETITIONER

As explained in detail below, the Petition fails to establish a reasonable likelihood that the Challenged Claims are unpatentable. Specifically, the Petition proposes four grounds against the 835 Patent:

- **Ground 1.** Anticipation of claims 8-10, 15, 24-26, and 31 under 35 U.S.C. § 102(b) by G.992.1 ITU-T Recommendation ("G.992.1").
- **Ground 2.** Unpatentability of claims 8-10, 15, 24-26, and 31 under 35 U.S.C. § 103 (a) over SC-060 ITU-T SG15/Q4 Contribution ("SC-060").

- **Ground 3.** Unpatentability of claims 8-10, 15, 24-26, and 31 under 35 U.S.C. § 103 (a) over G.992.1 in view of SC-060.
- **Ground 4.** Unpatentability of claims 8-10, 15, 24-26, and 31 under 35 U.S.C. § 103 (a) over G.992.1 in view of U.S. Pub. No. 2002/0172188 (“Wunsch”).

As discussed in more detail below, the cited references first do not, individually or collectively, disclose, teach, or suggest all of the elements of the Challenged Claims. Where none of the references discloses an element of the claims, *inter partes* review for obviousness cannot be instituted. *See Customplay, LLC v. Clearplay, Inc.*, IPR2013-00484, Paper 29 at p. 12 (P.T.A.B. Nov. 5, 2014) (claims not unpatentable where none of the asserted prior art references disclosed a claim element); *Du Pont v. Monsanto Tech., LLC*, IPR2014-00334, Paper 16 at p. 8 (P.T.A.B. July 11, 2014) (denying institution where none of the asserted prior art disclosed a claim element).

Additionally, as explained below for Grounds 2-4, the Petition fails to provide a sufficient rationale or reason why a person of skill in the art would have modified or combined the references or demonstrate a reasonable expectation of success in meeting the limitations of the claimed inventions. “An obviousness analysis requires more than simply showing that each limitation is found in the prior art.” *Jacobs Corp. v. Genesis III, Inc.*, IPR2014-01267, Paper 12 at p. 8 (P.T.A.B. January 22, 2015). “Petitioner must also show ‘whether there was an apparent reason to combine

the known elements in the fashion claimed by the patent at issue.” *Id.* “Petitioner must set forth sufficient articulated reasoning with rational underpinning to support its proposed obviousness ground.” *SAS Institute, Inc. v. Complementsoft, LLC*, IPR2013-00581, Paper 15 at p. 12 (P.T.A.B. December 30, 2013). The Petition “has failed to address this latter, ‘reason to combine’ portion of the obviousness analysis.” *Jacobs Corp. v. Genesis III, Inc.*, IPR2014-01267, Paper 12 at p. 8 (P.T.A.B. January 22, 2015); *see also Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016) (holding that “[t]he reasonable expectation of success requirement refers to the likelihood of success in combining references to meet the limitations of the claimed invention” and “one must have a motivation to combine accompanied by a reasonable expectation of achieving what is claimed in the patent-at-issue.”).

For the foregoing reasons and as further discussed below, the Petition does not establish a reasonable likelihood that the Challenged Claims are unpatentable, and the Board should therefore not institute an *inter partes* review.

A. Ground 1: Anticipation of the Challenged Claims By G.992.1

The Petition does not show that there is a reasonable likelihood that the Petitioner would prevail on Ground 1 with respect to any of the Challenged Claims. In particular, G.992.1 does not anticipate any claim because it does not disclose the following elements of independent claims 8 and 24: “transmit a flag signal,” “switch

to using for transmission[/reception], a second FIP setting following transmission[/ reception] of the flag signal,” “wherein: . . . the switching occurs on a pre-defined forward error correction codeword boundary following the flag signal” (collectively, the “Flag Signal Limitations”).

The G.992.1 DRA_Swap_Request message is not a “flag signal” as correctly construed to mean a “signal used to indicate when an updated FIP setting is to be used, where the signal does not include information (*e.g.*, a FEC codeword counter value) specifying when the updated FIP setting is to be used.” The DRA_Swap_Request message is also not a “flag signal” even if Petitioner’s construction (i.e., a “signal used to indicate when an updated FIP setting is to be used (the signal does not include the FEC codeword counter value upon which the updated FIP setting is to be used)”) is applied. Because the DRA_Swap_Request is not a flag signal, G.992.1 does not disclose any of the Flag Signal Limitations.

1. The DRA_Swap_Request message is not a flag signal under Petitioners proposed construction because it does not “indicate when an updated FIP setting *is to be used.*”

Both parties’ proposed constructions include the positive requirement that the flag signal “indicate when an updated FIP setting *is to be used.*” The DRA_Swap_Request message does not meet this positive requirement because it is, as its name confirms, only a *request* to switch to an updated FIP setting, which request can be rejected. Ex. 2028 at ¶40; Ex. 1004 at p. 237 (specifying that

DRA_Swap_Reply, which is sent in response to the DRA_Swap_Request may “NACK_SWAP” to reject the DRA_Swap_Request). Petitioner’s expert, Dr. Jacobsen, previously admitted this. Ex. 2024 (Jacobsen Dep. Tr.) at 698:19-24 (“Q. . . . So the DRA swap request message – and we can refer back to Appendix 2 [of the G.992.1 standard] for this if you need help on this, but the DRA swap request message can be expressly rejected by the CPE, correct? A. That looks right.”). At best, the DRA_Swap_Request only includes data specifying when an updated FIP setting *might or might not* be used. In distinction, the claimed flag signal “indicates when the update FIP setting *is to be used*.” Indeed, the claimed and disclosed invention of the 835 Patent requires that the updated FIP setting must be used for transmission following the flag signal (Ex. 2028 at ¶39) and, the claimed transceiver must “switch to using for transmission[/ reception], a second FIP setting following transmission[/ reception] of the flag signal,” “wherein: . . . the switching occurs on a pre-defined forward error correction codeword boundary following the flag signal.” Ex. 1001 at claims 8 and 24; *see also id.* at 12:8-11.

“Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention *arranged as in the claim*.” *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983). The G.992.1 standard does not anticipate because the alleged flag signal, the DRA_Swap_Request message,

may be rejected, meaning that it cannot indicate when an updated FIP setting “*is to be* used.” For this reason, G.992.1 does not disclose the Flag Signal Limitations.

2. The DRA_Swap_Request message is not a flag signal under Petitioner’s proposed construction because it “include[s] the FEC codeword counter value upon which the updated FIP setting [may or may not] be used.”

Additionally, even if the improperly broad negative portion of the Petitioner’s construction of “flag signal” is applied, the G.992.1 DRA_Swap_Request message is not a flag signal because it “include[s] the FEC codeword counter value upon which the updated FIP setting [may or may not] be used.” Petitioner contends that “[a] superframe reference number (SFR) included in the DRA_Swap_Request message identifies ‘around which superframe boundary the rate swap will occur.’”¹⁴ Pet. at 19. Petitioner asserts that under its proposed construction only a “flag signal” that includes a FEC codeword counter is excluded and, because the SFR purportedly is not a FEC codeword counter value, the DRA_Swap_Request is not excluded by the negative portion of the construction. This assertion is incorrect, however, because the SFR is necessarily an FEC codeword counter value given the manner in which Petitioner and its expert apply G.992.1 in order to allege that the “switching

¹⁴ This assertion is wrong because the SFR only specifies around which superframe boundary the rate swap *may or may not* occur.

occurs on a pre-defined forward error correction codeword boundary following the flag signal.

For the limitation “switching occurs on a pre-defined forward error correction codeword boundary,” Petitioner relies on G.992.1’s disclosure that, “[i]f the modems operate with the mandatory S-values, these SFR-references always coincide with codeword boundaries.” Pet. at 24. A G.992.1 modem will not always operate with mandatory S-values. Ex. 1004 at 233 (“However if a different S-value is used then a reset is mandatory.”). But, Petitioner is necessarily relying on operation with mandatory S-values because only then will the SFR¹⁵ numbered superframe correspond to an integer number of codewords so that the boundary of the SFR numbered superframe will correspond to a codeword boundary. Ex. 2028 at ¶42. However, because of this relationship where an SFR counter value corresponds to an integer number of codewords, the SFR counter value included in the DRA_Swap_Request *is* a codeword counter value. Ex. 2028 at ¶42.

For example, where the S-value is 1 (one of the mandatory values), each superframe will include 68 codewords and, if the SFR value in the DRA_Swap_Request message is 3, this corresponds to a codeword counter value of

¹⁵ SFR values are restricted to “ $SFR = 4 \times N - 1$ where N is an integer number,” i.e., 3, 7, 11, 15, etc. Ex. 1004 at 233. An SFR of 3 is the fourth superframe, an SFR of 7 is the eighth superframe, *etc.*, because the count starts at zero. *See id.* (“Notice that SFR equals zero at the first ShowTime symbol and is then increased by one (modulo 256) at each consecutive superframe.”).

$(68 \times 4)/1 = 272$. Ex. 2028 at ¶42. This was previously confirmed by Dr. Jacobsen. Ex. 2025 (*TQ Delta v. ZyXEL*, Jacobsen Dep. Tr.) at 64:1-25 (“Q Yes. And your switch would occur on the code word following the 68 times fourth code word, is that correct, for an SFR of 3? A Yes.”); *see also id.* 65:22-24 (“**THE WITNESS:** With an S-value of 1, that would be the number of FEC code words you would have transmitted.”). Dr. Jacobsen admitted that the SFR value corresponds to a particular FEC codeword counter value. *Id.* at 74:5-7 (“A The SFR value is a superframe counter value. Its values are limited to ensure that whichever one you pick, it coincides with an FEC code word boundary.”), at 75:11-14 (“A Again, the SFR values are restricted to ensure that whichever one you pick, as long as your value of S is one of the mandatory values, that switch will be on an FEC code word boundary”), and at 76:5-12 (“A There is a superframe of a particular size. There are mandatory values of S that span those superframes of a particular size. So there is a relationship between how many symbols are spanned by a FEC code word, how many of those there are in each superframe, and how many superframes you have to let elapse between when the -- when the FEC code word boundary coincides with the superframe boundary.”). Because the SFR included in the DRA_Swap_Request message is an FEC codeword counter, this is an additional reason why the DRA_Swap_Request message is not a flag signal and G.992.1 does not disclose the Flag Signal Limitations.

3. The DRA_Swap_Request message is not a flag signal as properly construed.

For the reasons explained in Section III, *supra*, the correct construction of “flag signal” is “signal used to indicate when an updated FIP setting is to be used, where the signal does not include information (*e.g.*, a FEC codeword counter value) specifying when the updated FIP setting is to be used.” As explained above, Petitioner asserts that the SFR value included in the DRA_Swap_Request indicates when an updated FIP setting is to be used. This assertion is necessarily an admission that the DRA_Swap_Request includes information specifying when the updated FIP setting is to be used. Thus, DRA_Swap_Request is not a “flag signal” and G.992.1 does not disclose any of the Flag Signal Limitations.

B. Ground 2: Obviousness of the Challenged Claims Over SC-060

For the reasons below, Petitioner has not shown that any Challenged Claim is likely unpatentable for obviousness over SC-060.

1. SC-060 does not disclose adapting FIP settings.

As an initial matter, Petitioner concedes that “SC-060 does not expressly list any FIP settings, such as K, R, N, or D, as PMS-TC parameters ‘that may be modified as a result of an OLR.’” Rather, SC-060 describes an On-line Reconfiguration (OLR) protocol that reconfigures “(b_i, g_i) – Bits and fine gains,” “L_p – number of bits in the p-th latency path and B_{pn} - number of octets . . .” and

“Net_actual – the actual upstream or downstream net data rate.” Ex. 1005 at 1-2.

Thus, SC-060 does not disclose at least:

- “[a]n apparatus configurable to adapt forward error correction and interleaver parameter (FIP) settings” or “switch to using for transmission[/ reception], a second FIP setting following transmission[/ reception] of the flag signal” (independent claims 8 and 24);
- “a first forward error correction parameter value of the first FIP setting is different than a second forward error correction parameter value of the second FIP setting,” (dependent claims 9 and 25); and
- “a first interleaver parameter value of the first FIP setting is different than a second interleaver parameter value of the second FIP setting,” (dependent claims 10 and 26).

2. SC-060 does not disclose the Flag Signal Limitations.

SC-060 describes an OLR Request message that is “used by an ATU to request a specific on-line reconfiguration.” Ex. 1005 at 2. The ATU receiving the request transmits an OLR acknowledgement “to positively acknowledge an OLR Request.” *Id.* The OLR acknowledgement is a Synch Flag. Petitioner contends that the “Synch Flag” disclosed in SC-060 is the “flag signal” of the Challenged Claims. *See* Pet. at 32-33. It is not.

The undisputed portion of the construction of flag signal is a “signal used to indicate *when an updated FIP setting is to be used.*” “FIP setting” was construed to mean “set including at least one forward error correction parameter value and at least one interleaver parameter value.” Because SC-060 does not disclose updating FIP settings, the SC-060 “Synch Flag” cannot be a “signal used to indicate when an updated FIP setting is to be used.” Accordingly, SC-060 does not disclose the Flag Signal Limitations.

3. SC-060 does not Render the Challenged Claims Obvious

Recognizing that SC-060 does not disclose an apparatus configurable to adapt FIP settings, Petitioner falls back to obviousness. Pet. at p. 29. However, the Petition fails to make a *prima facie* case of obviousness. “A party seeking to invalidate a patent on obviousness grounds must demonstrate . . . that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *InTouch Techs., Inc. v. VGO Commc'ns, Inc.*, 751 F.3d 1327, 1347 (Fed. Cir. 2014) (citations omitted).

a. No Motivation to Modify SC-060

Petitioner asserts that “[a] POSITA would have been motivated to extend the SC-060 protocol to modify [FIP settings] because, as SC-060 discloses, it was known that lack of synchronization of transceivers implementing a reconfiguration

could be ‘catastrophic.’” Pet. at 31 (citing Ex. 1005, §3.6). This assertion is entirely illogical. A motivation to synchronize transceivers, something that SC-060 is directed to, is not a motivation to alter the types of parameters that SC-060 is able to adapt. The lack of synchronization of transceivers implementing a reconfiguration is “catastrophic” not because the parameters being adapted are not FIP settings. Instead, SC-060 teaches that the lack of synchronization of transceivers implementing a reconfiguration may be catastrophic if “the ATU requesting the OLR either false detects or misses an OLR Acknowledgement[.]” Ex. 1005, §3.6. Per SC-060, this lack of synchronization is addressed by sending “an OLR Acknowledgement (in the form of a Synch Flag),” (*see* Ex. 1005 at §3.6), **not** by “extend[ing] the SC-060 protocol to modify” FIP settings as Petitioner proposes. And the Petition does not explain why modifying SC-060 to adapt FIP settings, rather than the non-FIP settings that it does adapt, would remedy any lack of synchronization. Thus, the Petitioner has not articulated any valid reason why a POSITA would be motivated modify SC-060 to adapt FIP settings.

b. No *prima facie* showing of obviousness; no Reasonable Expectation of Success at Arriving at the Claimed Invention

The Petition fails to establish that a POSITA modifying SC-060 to adapt FIP settings would have had a reasonable expectation of success in “meet[ing] the limitations of the claimed invention.” *Intelligent Bio-Sys., Inc. v. Illumina*

Cambridge Ltd., 821 F.3d 1359, 1367 (Fed. Cir. 2016) (holding that “[t]he reasonable expectation of success requirement refers to the likelihood of success in combining references to meet the limitations of the claimed invention” and “one must have a motivation to combine accompanied by a reasonable expectation of achieving what is claimed in the patent-at-issue.”).

It is undisputed that in SC-060, the reconfiguration occurs “on the first DMT symbol of the Superframe with count equal to $(SFlgSf + 1 + SfDly)$ modulo 256,” not an FEC codeword boundary. Ex. 1005 at p. 5. Petitioner does not assert that a DMT symbol boundary is the same as an FEC codeword boundary. This disconnect is the natural result of SC-060 having nothing to do with the adaption of FEC codeword or interleaver parameters. Thus, SC-060 does not teach that “the switching occurs on a pre-defined forward error correction codeword boundary.”

Given this lack of disclosure, the Petition refers to Dr. Jacobsen’s assertion that “it would be necessary for the first PMD symbol of the PMD superframe count equal to $(SFlgSf + 1 + SfDly)$ modulo 256 to coincide with an FEC codeword boundary in order to avoid a reset of the FEC mechanism, as G.992.1 discloses.” Ex. 1003 at ¶384. However, Dr. Jacobsen does not articulate how configuration parameters would be selected “so that the first PMD symbol of the PMD superframe count equal to $(SFlgSf + 1 + SfDly)$ modulo 256 to coincide with an FEC codeword boundary.” Thus, the Petition fails to establish that a POSITA would have a

reasonable expectation of success in modifying SC-060 such that the “switching occurs at a forward error correction codeword boundary.” *Kinetic Techs., Inc. v. Skyworks Solutions, Inc.*, IPR2014-00529, Paper 8 at 15 (P.T.A.B. Sept. 23, 2014) (“The Declaration does not explain the ‘how,’ ‘what,’ and ‘why’ of the proposed combination of references. Dr. Mohapatra does not explain how the teachings of the specific references could be combined, which combination(s) of elements in specific references would yield a predictable result, or how any specific combination would operate or read on the asserted claims.”) (citing *ActiveVideo Networks, Inc. v. Verizon Commc’n, Inc.*, 694 F.3d 1312, 1327 (Fed. Cir. 2012). Explaining how to select parameter values for SFlgSf and SfDly so that $(SFlgSf + 1 + SfDly)$ modulo 256 to coincide with an FEC codeword boundary is particularly critical because SC-060 counsels against using its method to make modifications to FEC parameters. Ex. 1005 at 2 (warning that its disclosed method has “complex interactions within the ADSL system.”). Failure to articulate that and how there would be a reasonable expectation of success is, alone, fatal to Ground 2.

The Petition further asserts that “[t]o the extent that SC-060 does not disclose timing the reconfiguration such that it occurs on a FEC codeword boundary, it would have been obvious to a person having ordinary skill in the art in extending the SC-060 protocol to cover changes to FIP settings to restrict the scheduling parameters, SFlgSf and SfDly, to certain values such that the switch to the new FIP setting would

always occur on a pre-defined FEC codeword boundary.” Pet. at 36 (citing Ex. 1003 at ¶386). Dr. Jacobsen’s Declaration at ¶386 merely repeats the argument in the Petition. Dr. Jacobsen does not explain how it would have been obvious to a person having ordinary skill in the to restrict the scheduling parameters, SFlgSf and SfDly, to certain values such that the switch to the new FIP setting would always occur on a pre-defined FEC codeword boundary. For example, SC-060 states that “SfDly is a non-negative integer less than 4 and is approximately the number of PMD superframes that the receiver will have advance knowledge of an impending OLR reconfiguration before the new configuration must become effective.” Ex. 1005 at §3.4; *see also* Ex. 1003 at ¶183. Despite this complex disclosure of SC-060, Dr. Jacobsen has not articulated why or how a POSITA would, or even could, make this modification. “Merely repeating an argument from the Petition in the declaration of a proposed expert does not give that argument enhanced probative value.” *Kinetic Techs., Inc. v. Skyworks Solutions, Inc.*, No. IPR2014-00529, Paper 8 at 15 (P.T.A.B. Sept. 23, 2014); *see also Facebook, Inc. v. Windy City Innovations, LLC*, 973 F.3d 1321, 1340–41 (Fed. Cir. 2020).

Accordingly, the Petition fails to present a *prima facie* case that it would have been obvious to modify SC-060 so that “the switching occurs on a pre-defined forward error correction codeword boundary.”

C. Ground 3: Obviousness of the Challenged Claims Over G.992.1 and SC-060

For the reasons below, Petitioner has not shown that any Challenged Claim is likely unpatentable for obviousness over G.992.1 and SC-060.

1. Neither G.992.1 nor SC-060 disclose the Flag Signal Limitations.

Petitioner has not made a *prima facie* showing that any of the Challenged Claims are likely unpatentable over the combination of G.992.1 and SC-060. As explained above, neither G.992.1 nor SC-060 disclose the Flag Signal Limitations and SC-060 does not disclose adapting FIP settings. Ground 3 also fails to demonstrate a reasonable expectation of success at arriving at the claimed inventions or *prima facie* obviousness of a combination that includes the “switching occurs on a pre-defined forward error correction boundary following the flag signal” limitation of the Challenged Claims.

2. No *Prima Facie* showing of obviousness; No Reasonable Expectation of Success at Arriving at the Claimed Invention

The Petition is deficient because it fails to establish that a POSITA modifying G.992.1 with SC-060 would have had a reasonable expectation of success in “meet[ing] the limitations of the claimed invention.” *Intelligent Bio-Sys., Inc.*, 821 F.3d at 1367 (Fed. Cir. 2016).

For “the switching occurs on a pre-defined forward error correction codeword boundary following the flag signal” limitation, the Petition asserts “[a] POSITA would also restrict the values of SFlgSF and SfDly to ensure that the switch to the reconfigured settings always occurs on a FEC codeword boundary to avoid a FEC reset.” Pet. at 46 (citing Ex. 1003, ¶471). However, Dr. Jacobsen’s declaration at ¶471 merely repeats this argument without any explanation or reasoning. Ex. 1003, ¶471 (“A person having ordinary skill in the art would also have restricted the values of SFlgSf and SfDly to ensure that the switch to the reconfigured settings always occurs on an FEC codeword boundary to avoid a reset of the FEC mechanism, as disclosed by G.992.1.”). “Merely repeating an argument from the Petition in the declaration of a proposed expert does not give that argument enhanced probative value.” *Kinetic Techs.*, IPR2014-00529, Paper 8 at; *see also Facebook, Inc.*, 973 F.3d at 1340–41.

In SC-060, the reconfiguration occurs “on the first DMT symbol of the Superframe with count equal to $(SFlgSf + 1 + SfDly)$ modulo 256.” Ex. 1005 at p. 5. The Petition does not assert or show that a DMT symbol boundary is the same as a FEC codeword boundary. Thus, the substitution of SC-060’s reconfiguration scheme for that of G.992.1, as the Petition proposes, does not include “the switching occurs on a pre-defined forward error correction codeword boundary.” Further, despite the complex disclosure of SC-060 and the G.992.1 DRA procedure, Dr.

Jacobsen does not articulate how configuration parameters, SFlgSf and SfDly, should be selected so that the switching occurs on a FEC codeword boundary or if such a selection is even possible. Explaining how to select parameter values for SFlgSf and SfDly so that $(SFlgSf + 1 + SfDly)$ modulo 256 coincides with an FEC codeword boundary is particularly critical because SC-060 counsels against using its method to make modifications to FEC parameters because SC-060 recognizes that its disclosed method has “complex interactions within the ADSL system.” Ex. 1003 at p. 2. Additionally, SC-060 states that “SfDly is a non-negative integer less than 4 and is approximately the number of PMD superframes that the receiver will have advance knowledge of an impending OLR reconfiguration before the new configuration must become effective.” Ex. 1005 at §3.4. Dr. Jacobsen has not explained how this critical restriction on SC-060 could be met while simultaneously attempting to arrive at the claimed invention.

Thus, the Petition and Dr. Jacobsen have failed to establish that POSITA would have a reasonable expectation of success in modifying G.992.1 with SC-060 such that the “switching occurs on a forward error correction codeword boundary following the flag signal.” *Kinetic Techs.*, No. IPR2014-00529, Paper 8 at 15. Accordingly, the Petition fails to present a *prima facie* case of obvious over G.992.1 and SC-060.

D. Ground 4: Obviousness of the Challenged Claims Over G.992.1 and Wunsch

The disclosure of Wunsch is materially the same as SC-060. Further, as explained below, Wunsch is used to modify G.992.1 in the same way SC-060 is used to modify G.992.1 in Ground 3.

In Ground 3, the Petition contends that a POSITA would “modify the DRA protocol of G.992.1 by replacing the SFR in the DRA_Swap_Request message of the G.992.1 DRA protocol with the SFlgSF and SfDly.” Pet. at 45. Similarly, in Ground 4, the Petition contends a POSITA would “modify the DRA protocol of G.992.1 by replacing the SFR parameter of the DRA_Swap_Request message with SFlgSf and Dly parameters of Wunsch.” Pet. at 54.

With reference to the claimed “flag signal,” in Ground 3, the Petition contends that the Synch Flag disclosed in SC-060 is the claimed flag signal (*see* Pet. at p. 45 (identifying synch flag as the flag signal)) and in Ground 4, the Petition contends that synch flag disclosed in Wunsch is the claimed flag signal. (*see* Pet. at p. 54 (identifying synch flag as the flag signal)). There are no material differences between the SC-060 Synch Flag and Wunsch’s Synch Flag and each is used in the same manner in each respective Ground.

With reference to the “switch to using for transmission . . . following transmission of the flag signal,” in Ground 3, the Petition alleges that “the ATU-R would switch to using the new FIP settings for upstream transmission after counting

(SFlgSf +1 + SfDly) modulo 256 after sending the Synch Flag.” Pet. at p. 45. Similarly, in Ground 4, the Petition alleges that “the ATU-R would switch to using the new FIP settings for upstream transmission after counting (SFlgSf +1 + Dly) modulo 256 after sending the Synch Flag.” Pet. at p. 54.

Accordingly, because Ground 4 is materially the same as Ground 3, TQ Delta's arguments with respect Ground 3 apply equally to Ground 4 as summarized below. Additionally, as explained below, the Petition and the Declaration of Dr. Jacobsen do not present a coherent discussion of the bases for Ground 4 and, for this additional reason, Ground 4 does not demonstrate that the Challenged Claims are likely unpatentable.

1. Neither G.992.1 nor Wunsch disclose the Flag Signal Limitations.

For the reasons set forth in Section VI.C.1, the combination of G.992.1 and Wunsch does not disclose a “flag signal,” because like the SC-060 Synch Flag, the Synch Flag disclosed in Wunsch is not “used to indicate when an updated FIP setting is to be used.” Accordingly, even if a POSITA would have modified G.992.1 with Wunsch, the modified G.992.1 would not have rendered the “flag signal” limitation obvious.

2. No *prima facie* showing of obviousness; no reasonable expectation of success at arriving at the claimed inventions.

Like in Ground 3, the Petition asserts that “as taught by G.992.1, a POSITA

would also restrict the values of SFlgSF and Dly to ensure that the switch to the reconfigured settings always occurs on a FEC codeword boundary to avoid a FEC reset.” Pet. at 55. However, neither the Petition nor Dr. Jacobsen articulates how a POSITA would, or even could, have used the teachings of G.992.1 to “restrict the values of SFlgSF and Dly.”

3. Ground 4 is incoherent.

The Board should deny institution based on Ground 4 at least because the Petition advances inconsistent arguments with respect to the “switch to using for transmission, a second FIP setting following transmission of the flag signal.” Specifically, in support of its motivation to combine, the Petition contends that where G.992.1 is modified by Wunsch, the “ATU-C and ATU-R would switch to the new parameter values at the time specified by the Dly value.” Pet. at 53. Elsewhere, the Petition asserts that “the ATU-R would switch to using the new FIP settings for transmission after counting (SFlgSf+1 + Dly) modulo 256 after sending the Synch Flag.” The inconsistency between the positions advanced by Petitioner with reference to this element make it impossible to discern how Petitioner is proposing that a POSITA would purportedly modify G.922.1 with Wunsch to arrive at the Challenged Claims.

VII. CONCLUSION

For at least the foregoing reasons, TQ Delta respectfully requests that the Board refuse to institute an *inter partes* review for the proposed grounds.

Dated: May 25, 2022

/Peter J. McAndrews/

Peter J. McAndrews

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CERTIFICATE OF SERVICE

I hereby certify that the Patent Owner Preliminary Response to Petition for *Inter Partes* Review Pursuant to 35 U.S.C. §§ 42.107 in connection with *Inter Partes* Review Case IPR2022-00471 was served on this 25th day of May, 2022 by electronic mail to the following:

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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), the undersigned attorney for the Patent Owner, TQ Delta, LLC, declares that this Patent Owner Preliminary Response has a total of 13,259 words, according to Microsoft Word® word count tool, excluding the parts of the Response exempted by 37 C.F.R. § 42.24(a)(1).

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